

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include changes to Figures 1,4,7, and 10-11. These sheets, which include Figures 1,4,7, and 10-11 replace the original sheets including Figures 1,4,7, and 10-11.

Attachment: Five (5) Replacement Sheets

REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-5 and 7-18 are presently active in this. The present Amendment amends Claims 1, 4, 7-11, 13-14, and 16-18 and cancels Claim 6 without prejudice or disclaimer.

In the April 14, 2011 Office Action, the drawings, the abstract of the disclosure, and the specification were objected to because of informalities; Claims 1-18 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite; Claims 1-18 were rejected under the non-statutory obviousness-type double patenting doctrine over co-owned U.S. Patent No. 7,595,895 (hereinafter “895”) in view of Fukuyo et al. (European Patent No. 1,338,371, hereinafter “Fukuyo”) and Fordahl et al. (U.S. Pat. Pub. No. 2002/0153500, hereinafter “Fordahl”); Claims 1-7, 9-13, 15-16, and 18 were provisionally rejected under the non-statutory obviousness-type double patenting doctrine over co-pending Application No. 10/585,343 (hereinafter “343”) in view of Fukuyo and Fordahl; and Claims 8, 14, and 17 were provisionally rejected under the non-statutory obviousness-type double patenting doctrine over 343 in view of Fukuyo and Fordahl, in further view of Cohen et al. (U.S. Pat. No. 5,122,648 hereinafter “Cohen”).

Moreover, Claims 1-7, 9-13, 15-16, and 18 were provisionally rejected under the non-statutory obviousness-type double patenting doctrine over co-pending Application No. 10/585,451 (hereinafter “451”) in view of Fukuyo and Fordahl; Claims 8, 14, and 17 were provisionally rejected under the non-statutory obviousness-type double patenting doctrine over 451 in view of Fukuyo and Fordahl, in further view of Cohen; Claims 1-7, 9-13, 15-16, and 18 were provisionally rejected under the non-statutory obviousness-type

double patenting doctrine over co-pending Application No. 12/096,940 (hereinafter “’940”) in view of Fukuyo and Fordahl; Claims 8, 14, and 17 were provisionally rejected under the non-statutory obviousness-type double patenting doctrine over ’940 in view of Fukuyo and Fordahl, in further view of Cohen.

In addition, Claims 1-7, 9-13, 15-16, and 18 were rejected under 35 U.S.C. § 103(a) over Fukuyo in view of Fordahl; and Claims 8, 14, and 17 were rejected under 35 U.S.C. § 103(a) over Fukuyo and Fordahl, in view of Cohen.

First, Applicants respectfully request acknowledgement of the references that are listed in the PTO-1449 forms as having been considered by the examiner. It appears that the listed references have not been acknowledged by the examiner’s initials. Moreover, the foreign language references were submitted with English translations of the abstract, serving as statements of relevancy. See M.P.E.P. 609.04(a) III.

In response to the objection to the Abstract of the Disclosure, the Abstract is herewith amended to be in proper narrative form and not to exceed 150 words, as required by 37 C.F.R. § 1.72(b).

In response to the objection to the specification with respect to description of Figures 5 and 8, the specification is herewith amended at pages 27 and 32 to address this issue, as suggested in the April 14, 2011 Office Action at page 3, lines 15-18.

In response to the objection to the drawings, Figures 1, 4, 7, and 10-11 are herewith amended to add appropriate text labels into the respective boxes. These text labels find support in the disclosure as originally filed. No new matter has been added.

In response to the rejection of Claims 1-18 under 35 U.S.C. § 112, second paragraph, Claims 11, 4, 7-11, 13-14, and 16-18 are amended to address the noted

informalities and to correct some minor informalities. Because these changes are merely formal in nature, it is believed that no new matter has been added. Applicants note that this amendment is made to address formal issues only, and is not addressing any of the prior art rejections of the Office Action.

Moreover, dependent Claim 6 is cancelled without prejudice or disclaimer for being a duplicate of dependent Claim 5.

In addition, independent Claim 1 is amended to recite a step of forming the modified region in a part of the cutting line *other than the one end part of the cutting line* while adjusting the position of the lens. Independent Claim 10 is amended analogously in the context of laser processing apparatus. These features find non-limiting support in Applicants' disclosure as originally filed, for example in Figure 7, and in the specification as originally filed at pages 30-31. No new matter has been added.

In response to the obviousness-type double patenting rejections of Claims 1-18 based on the co-pending applications with the Serial Numbers 10/585,343 and 10/585,451, Applicants herewith file a Terminal Disclaimer against these two references. However, Applicants note that the filing of a terminal disclaimer to obviate a non-statutory double patenting rejection is not an admission of the propriety of the rejection. *Quad Environmental Technologies Corp. v. Union Sanitary District*, 946 F.2d 870, 20 USPQ2d 1392 (Fed. Cir. 1991).

In response to the obviousness-type double patenting rejections of the claims based on U.S. Patent No. 7,595,895 and U.S. Patent Application Serial No. 12/096,940, it is respectfully submitted that the features of Applicants' independent Claims 1 and 10 patentably define over these references. First, Claims 1-3 of U.S. Patent No. 7,595,895

fail to teach anything related to the releasing of a lens from the initial position after forming the modified region in the one end part of the cutting line, and then forming the modified region in a part of the cutting line, as required by Applicants' independent Claim 1. Also, Claims 1-4 of Serial No. 12/096,940 that have been allowed with a Notice of Allowability of July 26, 2011 fail to anticipate or render obvious the features related to the formation of the modified region, as discussed above. Accordingly, Applicants respectfully request reconsideration of the obviousness-type double patenting rejections based on U.S. Patent No. 7,595,895 and U.S. Patent Application Serial No. 12/096,940, and traverse these rejections.

In response to the rejection of the claims under 35 U.S.C. § 103(a) over Fukuyo and Fordahl, Applicants traverse this rejection. Briefly summarizing, Applicants' independent Claim 1, that is directed to a laser processing method for irradiating an object to be processed with a first laser beam while converging the first laser beam with a lens such that a converging point is positioned within the object so as to form a modified region within the object along a cutting line in the object, requires *inter alia* a processing step of forming the modified region in one end part of the cutting line upon irradiation with the first laser beam while holding the lens at the initial position, releasing the lens from the initial position after forming the modified region in the one end part of the cutting line, and then forming the modified region in a part of the cutting line other than the one end part of the cutting line while adjusting the position of the lens.

Turning now to the applied references, Fukuyo is directed to a laser beam machining method that is capable of cutting a work without producing a fusing, where the pulse laser beam L is radiated on the predetermined cut line 5 on a surface 3 of the

work 1 to cause multiple photon absorption. (Fukuyo, Abstract, Figs. 14-15.) Fukuyo explains that the light-converting point P of the laser light L can be controlled to a specific position within the object 1, and it is possible to move the X-axis stage 109 and the Y-axis stage 111 for moving mounting table 107 for laser processing. (Fukuyo, ¶¶ [0138]-[0142], Fig. 14.) However, Fukuyo fails to teach the following features of Applicants' independent Claim 1:

a processing step of forming the modified region in one end part of the cutting line upon irradiation with the first laser beam while holding the lens at the initial position, releasing the lens from the initial position after forming the modified region in the one end part of the cutting line, and *then forming the modified region in a part of the cutting line other than the one end part of the cutting line while adjusting the position of the lens.*

(Claim 1, portions omitted, emphasis added.) In Fukuyo, the moving mounting table 107 is moved in X and/or Y direction so that laser light L is moved relative to the object 1, but does not teach the above features of Applicants' independent Claim 1 related to the modified region.

The reference Fordahl, used by the pending Office Action to form 35 U.S.C. §103(a) rejections of the claims, fails to remedy the deficiencies of Fukuyo, even if we assume *arguendo* that these references can be combined. Fordahl is directed to an apparatus 10 for maintaining a focal point of a laser beam relative to a workpiece, by controlling the location of the focal point based on distances measured with a measurement beam 40 and a sensor 38. (Fordahl, Abstract, Fig. 4, ¶¶ [0019]-[0020]). However, Fordahl fails to teach the formation of the modified region in a part of the cutting line other than the one end part of the cutting line, as required by Applicants' independent Claim 1.


Independent Claim 10 requires features that are analogous to the features argued above with respect to independent Claim 1, but is directed to a laser processing apparatus. Accordingly, it is believed that the rejections under 35 U.S.C. § 103(a) are overcome.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-5 and 7-18 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. § 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0573. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

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Respectfully submitted,
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REPLACEMENT SHEETS